

REMARKS/ARGUMENT

Description of amendments

Claims 1, 13, and 23 are currently amended. Claims 1, 3-5, 7-14, 16-29, 31-37 are pending after entry of this Amendment. No new matter is introduced by this Amendment. New claims 35 and 37 are based on previously canceled claims 2 and 15, respectively. New claim 36 is supported by specification as originally filed (see, for example, page 8, lines 11-22).

Applicant respectfully requests reconsideration in view of the foregoing claim amendments and remarks presented below.

Rejections under 35 U.S.C. §103(a)

I.

Claims 1, 3-6, 8-10, and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication 2004/0063663 ("Buchanan"), U.S. Patent 5,762,944 ("Inoue"), and U.S. Patent 5,756,659 ("Hughes").

Claim 1 has been amended to include the limitations of claim 6, which is now canceled. Claim 1 now recites: "the fluid is of a type to physically entrap the impurity without dissolving the impurity." Applicant respectfully submits that the cited references, individually and when combined, fail to teach or suggest this limitation of claim 1.

The Examiner stated that "Inoue does not explicitly teach that the fluid is a type to physically entrap the impurity without dissolving the impurity." The Examiner further stated that Inoue teaches in Example 4 a technique of "forming a thermoplastic polymer from a prepolymer (i.e., a monomer)" that "would leave residual unreacted monomer (i.e., an impurity)," and that it would have been obvious "to have used such a technique to form the thermoplastic polymer of Buchanan and to have removed residual unreacted monomer using the method as taught in Inoue and Hughes..." The Examiner then concluded that "at least some of the solvents as taught in Inoue (e.g., water) must necessarily physically entrap residual monomers." Applicant notes that Inoue discloses the use of an "organic solvent or water" (col. 6:35-36). As best understood, the Examiner appears to assert that when an organic solvent or

water is mixed with a thermoplastic containing monomers in the extruder of Hughes, the organic solvent or water must necessarily physically entrap the monomers without dissolving it. The Examiner has provided no support or explanation as to why an organic solvent or water of Inoue must necessarily (1) physically entrap monomers and (2) would not dissolve the monomers. Accordingly, Applicant respectfully submits that this rejection is improper and requests removal of this rejection.

Independent claim 31 requires “introducing a first fluid ... acting as a solvent for the impurity” and “introducing a second fluid ... acting as a non-solvent for the impurity.” Applicant submits that the cited references, individually and when combined, fail to teach or suggest this limitation. The Examiner stated that it would have been obvious “to have used any combination of solvents, including the use of a solvent together with a non-solvent ... because Hughes teaches that more than one fluid can be used.” Applicant respectfully disagrees.

Applicant has identified two approaches to removing impurities from a polymer: by dissolving the impurity and by entrapping the impurity without dissolving the impurity (specification page 8, lines 4-10), the latter approach capable of removing low molecular weight components (specification page 8, lines 19-20). None of the cited references recognize a distinction between using solvents and non-solvents and none teach or suggest the desirability of using a combination of a solvent and a non-solvent to remove impurities from a polymer. Hughes merely provides that “the stripping agent(s) should have a vapor pressure sufficient to either be a gas or form gas bubbles...” (col. 6:64-66). The Examiner has not provided any line of reasoning as to why a person of ordinary skill in the art, at the time of the invention, would introduce “a first fluid ... acting as a solvent for the impurity” and “a second fluid ... acting as a non-solvent for the impurity,” as required by claim 31. Instead, the Examiner has impermissibly applied an “obvious to try” rationale where none of the cited references gives an indication of what parameter is critical (i.e., solubility). See MPEP 2145, X, B. Accordingly, Applicant respectfully requests removal of this rejection.

Claims 3-5, 9, 10, 32, and 33 depend from claim 1 or claim 31 and are patentably allowable over Buchanan, Inoue, and Hughes for at least the same reason as claim 1 or 31.

II.

Claims 13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan, Inoue, and Hughes, as applied to claim 1, and further in view of EP 0623354 (“Berg”).

Claim 13 has been amended to recite: “wherein the fluid is of a type to physically entrap the impurity without dissolving the impurity.” As indicated above for claim 1, Buchanan, Inoue, and Hughes, individually and when combined, fail to teach or suggest this limitation of claim 13. Berg fails to cure this deficiency of Buchanan, Inoue, and Hughes. Accordingly, Applicant respectfully submits that claim 13 is patentably allowable over the cited references.

Claims 16-18 depend from claim 13 and are patentably allowable over the cited references for at least the same reason as claim 13.

III.

Claims 23-30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan, Inoue, and Hughes, as applied to claims 1 and 31, and further in view of US 2005/0106203 (“Roorda”).

Claim 23 has been amended to recite “the fluid is selected from the group consisting of FLUX REMOVER AMS, dimethyl acetamide, dimethyl formamide, cyclohexane, dimethyl sulfoxide, and combinations thereof.” The cited references fail to teach this limitation of claim 23. Accordingly, Applicant respectfully submits that claim 23 is patentably allowable over the cited references.

Claims 24-27 and 29 depend from claim 23 and are patentably allowable for at least the same reason as claim 23.

Claim 28 requires that the “fluid is of a type to physically entrap the impurity without dissolving the impurity.” As indicated above for claim 1, Buchanan, Inoue, and Hughes, individually and when combined, fail to teach or suggest this limitation of claim 28. Roorda fails to cure this deficiency of Buchanan, Inoue, and Hughes. Accordingly, Applicant respectfully submits that claim 28 is patentably allowable over the cited references.

Claim 30 has been canceled, rendering its rejection moot.

Claim 34 depends from claim 31. As indicated above, claim 31 is patentably allowable over Buchanan, Inoue, and Hughes. Roorda fails to cure the deficiency of Buchanan, Inoue, and Hughes with respect to claim 31. Accordingly, Applicant respectfully submits that claim 34 is patentably allowable over the cited references.

Conclusion

In light of the foregoing claim amendments and remarks, this application is considered to be in condition for allowance, and early passage of this case to issue is respectfully requested. If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-0150.

Respectfully submitted,

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